



PATENT ABSTRACTS OF JAPAN

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H01L 21/3065**H01L 21/28****H01L 21/768**(21) Application number: **2001312883**(22) Date of filing: **10.10.01**(71) Applicant: **FUJITSU LTD FUJITSU VLSI LTD**(72) Inventor: **KOMADA DAISUKE
KAGAMI KATSUMI****(54) METHOD OF MANUFACTURING
SEMICONDUCTOR DEVICE****(57) Abstract:**

PROBLEM TO BE SOLVED: To provide the manufacturing method of a semiconductor device by using an etching method for easily removing an etching stopper film and a hard mask when SiC is used as the materials of the etching stopper film and the hard mask.

SOLUTION: A first film formed of a material whose etching resistance differs from silicon carbide is formed on the semiconductor substrate. A second film formed of silicon carbide including hydrogen is formed on the first film. A resist film having an opening is formed on the second film. A resist film having an opening is formed on the second film. The second film is dry-etched with the resist film as a mask by using mix gas obtained by adding at least SF₆ or NF₃ to fluorocarbon gas. Then, the first film is etched with the second film as the mask.

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第1の実施例